

TECHNICAL REVIEW DOCUMENT
For
RENEWAL OF OPERATING PERMIT 95OPCY048

Colorado Interstate Gas Company – Kit Carson Compressor Station
Cheyenne County
Source ID 0170001

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Revised January 2003 and March 2003

I. Purpose

This document will establish the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewed operating permit proposed for this site. The original Operating Permit was issued February 1, 1998, and expires on February 1, 2003. This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted January 30, 2002, previous inspection reports and various e-mail correspondence, as well as telephone conversations with the applicant. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Source

The facility is a natural gas compression facility as defined under Standard Industrial Classification 4922. Gas is compressed to specification for transmissions to sales pipelines using ten (10) internal combustion engines to power compressor units. Other significant emission units at the facility consist of three (3) internal combustion engines to power electric generators.

Based on the information available to the Division and provided by the applicant, it appears that no modifications to these emission units has occurred since the original issuance of the operating permit. In addition, it appears that the insignificant activity list in Appendix A of the permit is correct and requires no changes.

This facility is classified as a natural gas transmission facility but is not subject to the provisions of 40 CFR Part 63 Subpart HHH, since there is no glycol dehydrator at this facility.

Under the federal Clean Air Act (the Act), EPA is charged with promulgating maximum achievable control technology (MACT) standards for major sources of hazardous air pollutants (HAPs) in various source categories by certain dates. Section 112(j) of the Act requires that permitting authorities develop a case-by-case MACT for any major sources of HAPs in source categories for which EPA failed to promulgate a MACT standard by May 15, 2002. These provisions are commonly referred to as the "MACT hammer".

Owner or operators that could reasonably determine that they are a major source of HAPs which includes one or more stationary sources included in the source category or subcategory for which the EPA failed to promulgate a MACT standard by the section 112(j) deadline were required to submit a Part 1 application to revise this operating permit by May 15, 2002. Based on the information provided by this source, the Kit Carson facility is a major source of HAPs (i.e. facility-wide potential to emit of greater than 10 tons per year of any single HAP or greater than 25 tons per year of all HAPs combined) for a covered source category (reciprocating internal combustion engines and industrial, commercial and institutional boilers and process heaters) and did submit a Part 1 application to the Division prior to May 15, 2002. As of the date of issuance of this permit, a Part 2 application to revise this operating permit is due by April 28, 2004. That date, however, may be revised. Affected facilities that fail to submit a timely and complete application will be considered in violation and such violations may be subject to enforcement action.

None of the significant emission units at this facility are equipped with control devices, therefore the Compliance Assurance Monitoring (CAM) requirements do not apply to any emission units at this facility.

The facility is located in Cheyenne County about 7.5 miles south of Kit Carson. The area in which the facility operates is designated as attainment for all criteria pollutants. There are no federal Class I designated areas within 100 km of this facility. Kansas, an affected state, is within 50 miles of this facility.

The summary of emissions that was presented in the Technical Review Document (TRD) for the original permit issuance has been modified to more

appropriately identify the potential to emit (PTE) since AP-42 emission factors for the engines have changed. Emissions (in tons/yr) at the facility are as follows:

Pollutant	Potential to Emit	Actual Emissions
NO _x	1,574	868.8
CO	1,847	683.8
VOC	60	33.83

The PTE for the engines is based on emission factors, maximum design rate (mmSCF/hr), a gas heating value of 1048 Btu/SCF (from technical review document for the original operating permit issued February 1, 1998) and 8760 hrs/yr of operation. Actual emissions are based on the information in the Division's inspection report dated November 21, 2002 (for the engines actual emissions are for the period of February 1, 2001 through January 31, 2002).

According to the technical review document prepared for the original operating permit all the engines were placed in service between 1949 and 1954. Therefore, no PSD issues are triggered with the change in emissions due to the revised AP-42 emission factors.

III. Discussion of Modifications Made

Source Requested Modifications

The source's requested modifications identified in the renewal application were addressed as follows:

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CIG requested that a primary and secondary Responsible Official be identified in the permit for more flexibility in completing the required certifications. The Division will grant this request. However, CIG should be aware that whichever Responsible Official signs the documents, that person becomes the responsible party regarding any non-compliance situation related to the Operating Permit and is subject to both civil and criminal penalties that may be associated with non-compliance situations. In addition, the permit contact was changed.

Other Modifications

In addition to the modifications requested by the source, the Division has included changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this renewal.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments, to the Kit Carson Renewal Operating Permit with the source's requested modifications. These changes are as follows:

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- Clarified dates for monitoring and compliance periods, i.e. changed "February to July" to "February 1 – July 31".

Monitoring and compliance periods and report and certification due dates are shown as examples. The appropriate monitoring and compliance periods and report and certification due dates will be filled in after permit issuance and will be based on permit issuance date. Note that the source may request to keep the same monitoring and compliance periods and report and certification due dates as were provided in the original permit. However, it should be noted that with this option, depending on the permit issuance date, the first monitoring period and compliance period may be short (i.e. less than 6 months and less than 1 year).

- The citation (above "issued to" and "plant site location") on the page following the cover page provides the incorrect title for the state act. The title will be changed from "Colorado Air Quality Control Act" to "Colorado Air Pollution Prevention and Control Act". In addition, the dates were removed from the citation.
- Added language specifying that the semi-annual reports and compliance certifications are due in the Division's office and that postmarks cannot be used for purposes of determining the timely receipt of such reports/certifications.

Section I – General Activities and Summary

- The language in Condition 1.3 was changed based on comments made by EPA on other Operating Permits.
- Added as noted after condition 17 in Condition 1.5 to reflect revisions made to Colorado Regulation No. 15.
- Conditions 13 and 17 in Condition 1.4 were renumbered to 14 and 18 and Condition 21 in Condition 1.5 was renumbered to 22. The renumbering changes were necessary due to the addition of the Common Provisions requirements in the General Conditions of the permit.
- Minor language changes were made to Condition 3.1 to more appropriately reflect the status of the source with respect to PSD. Specifically, the Division removed the statement indicating that "modifications up to this point in time have not triggered significance levels

which would bring about PSD review”, since EPA objected to this statement in their review of other Title V operating permits.

- Based on comments made by EPA on another operating permit, the phrase “Based on the information provided by the applicant” was added to the beginning of Condition 4.1 (112(r)).
- Corrected the serial number for engine E009 in the Table in Condition 5.1.
- Added a “new” Section 5 for compliance assurance monitoring (CAM), note that no emission units are subject to CAM.
- Added a “new” Section 6 for 112(j).

Sections II.1 thru 3 – Internal Combustion Engines

- The emission factors identified in the current operating permit are AP-42 emission factors. Since the AP-42 emission factors for internal combustion engines were revised in July 2000, the emission factors identified in the operating permit will be updated to the current AP-42 emission factors.

The technical review document for the original operating permit indicates that all thirteen engines are identified as 2-cycle rich burn engines. The technical review document prepared for the original operating permit issuance indicates that the source chose to use the highest emission factors for each pollutant from the 2-cycle lean burn and 4-cycle rich burn engines, since AP-42 did not identify emission factors for 2-cycle rich burn engines. The Division did the same with the renewal operating permit.

For engines that are grandfathered or exempt from construction permit requirements, the Division has allowed sources to use emission factors in g/hp-hr, lbs/mmSCF or lbs/mmBtu to calculate annual emissions for purposes of APEN reporting. Since the emission factors in the current permit are in lbs/mmSCF, the Division will leave the emission factors in these units. Since current AP-42 emission factors are in lbs/mmBtu, the Division will convert these factors to lbs/mmSCF, based on a heat content of 1048 Btu/SCF as indicated in the technical review document for the original operating permit. The emission factors that will be included in the renewal operating permit are as follows:

Pollutant	Emission Factor (lbs/mmBtu)	Source	Converted Emission Factor for Permit (lbs/mmSCF)
NO _x	3.17	AP-42, Section 3.2, Table 3.2-1, dated July 2000, at 90-105% load	3,322
CO	3.72	AP-42, Section 3.2, Table 3.2-3, dated July 2000, at <90% load	3,898
VOC	0.12	AP-42, Section 3.2, Table 3.2-1, dated July 2000	126

- Reworded Conditions 1.1, 2.1 and 3.1 and included an equation to calculate emissions. Note that the equation was previously included in Conditions 1.2, 2.2 and 3.2. In addition, under “monitoring method” in the Tables “calculation” was replaced with “recordkeeping and calculation”.
- The language in Conditions 1.2, 2.2 and 3.2 was revised to provide more specific information on allocating fuel use for the engines since they do not have individual fuel meters. In addition under “monitoring method” in the Tables “fuel meter” was replaced with “fuel meter and calculation”.

Based on information from the Division’s inspector and the source, the compressor engines (units E001 – E010) have a common fuel meter, and fuel use for the generators (E011 – E013) is based on the facility fuel meter.

- The language regarding the monitoring for the 20% opacity requirement (Conditions 1.3, 2.3 and 3.3) was revised to EPA approved language. In addition, the standard was rewritten to more closely resemble the language in Regulation No. 1. At the request of the source, the Division added a note to this condition specifying that natural gas is the only fuel used in these engines.
- Under “monitoring interval” in the Tables for Conditions 1.3, 2.3 and 3.3, replaced “annually” with “whenever natural gas is used as fuel”.
- Under “limitations” in the Tables for Conditions 1.3, 2.3 and 3.3, replaced “less than or equal to 20%” with “not to exceed 20%”. This is more consistent with the language in the regulation.

Note that no condition is included for the 30% opacity standard, which is applicable during certain operating activities. The specific activities under which the 30% opacity standard applies are: building a new fire, cleaning of fire boxes, soot blowing, startup, any process modification, or

adjustment or occasional cleaning of control equipment. Based on engineering judgment the Division considers that building a new fire, cleaning of fire boxes and soot-blowing does not apply to the operation of internal combustion engines. In addition, these engines do not have control devices, so adjustment or occasional cleaning of control devices do not apply to these engines. Process modifications and startup may apply to engines, however, based on engineering judgment, the Division believes that such activities would be unlikely to occur for longer than six minutes. Therefore, the 30% opacity requirement has not been included in the operating permit.

Section II.4 – Fugitive VOC Emissions from Equipment Leaks

“EPA’s Protocol for Equipment Leak Emission Estimates”, was updated in 1995. These revised emission factors predict lower emissions than the previous emission factors. Based on the change in emission factors VOC emissions are below APEN de minimis levels. Therefore, the conditions for Fugitive VOC emissions have been removed from Section II and are now included in the permit as an insignificant activity in Appendix A of the permit.

Note that although the source revised their component count based on component definitions that CIG and the Division agreed upon (which reduces the count), VOC emissions from equipment leaks are still below APEN de minimis based on the initial component count (as indicated in the Division’s December 23, 1999 inspection report), the VOC content of the gas and the 1995 emission factors.

Section III – Permit Shield

- The citation in the permit shield was corrected. The reference to Part A, Section I.B.43 was changed to Part A, Section I.B.44 and the reference to Part C, Section XIII was changed to Part C, Section XIII.B.
- The title for Section 1 was changed from “Specific Conditions” to “Specific Non-Applicable Requirements” and a new section 3 was added for subsumed (streamlined) conditions. Note that there are no streamlined conditions.
- Based on comments made by EPA on another permit, the following phrase was added to the beginning of the introductory sentence in Section 1 “Based upon the information available to the Division and supplied by the applicant”.
- Based on comments made by EPA on another permit, the following statement was added after the introductory sentence in Section 1 “This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance”.

- In addition, the following phrase “In addition, this shield does not protect the source from any violations that occur as a result of any modification or reconstruction on which construction commenced prior to permit issuance” was added to the end of the introductory paragraph in Section 1.
- Based on comments made by EPA on another permit, the phrase regarding reconstruction or modification under the shield for NSPS K, Ka, Kb and KKK was removed. It is EPA’s opinion that the Division may not have all of the information available to determine whether a reconstruction or modification has occurred and as a result the justification should not address modifications or reconstructions.
- The language in the justification for the permit shield for the PSD requirements was revised. Based on comments made by EPA on another permit, EPA indicated that the Division could not grant the shield for PSD review requirements, unless the source was an existing source prior to August 7, 1977 and no additional equipment had been added to the facility after the August 7, 1977 applicability date.
- As requested by the source in their comments on the draft operating permit, the Division added the provisions of 40 CFR Part 63 Subparts HH and HHH to the shield for non-applicable requirements.

Section IV - General Conditions

- Added an “and” between the Reg 3 and C.R.S. citations in General Condition 3 (compliance requirements).
- Added language from the Common Provisions (new condition 3). With this change the reference to “21.d” in Condition 20 (prompt deviation reporting) will be changed to “22.d”, since the general conditions are renumbered with the addition of the Common Provisions.
- The citation in General Condition 7 (fees) was changed to cite the Colorado Revised Statute. In addition, any specific identification of a fee (i.e. \$100 APEN fee) or citation of Reg 3 was removed and replaced with the language “...in accordance with the provisions of C.R.S. [appropriate citation].”
- The citation in General Condition 13 (odor) was corrected. In addition, the phrase “Part A” was added to the citation for Condition 13 (odor). Colorado Regulation No. 2 was revised and a Part B was added to address swine operations. Colorado Regulation No. 2, Part B should not be included as a general condition in the operating permit.

- The citation in General Condition 16 (open burning) was revised. The open burning requirements are no longer in Reg 1 but are in new Reg 9. In addition, changed the reference in the text from “Reg 1” to “Reg 9”.
- Condition 17 (ozone depleting compounds) was revised to reflect updates made to Colorado Regulation No. 15.
- Added the requirements in Colorado Regulation No. 7, Section V.B (disposal of volatile organic compounds) to General Condition 28.

Appendices

- First Page of Appendices – The phrase “except as otherwise provided in the permit” was added after the word “enforceable” in the disclaimer at the request of EPA.
- Based on comments made by the source, added “eye protection with side shields” and “flame retardant clothing (“Nomex®”)” to the equipment list in Appendix A
- Appendix B and C were replaced with revised Appendices.
- The EPA addresses in Appendix D were corrected.